UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

California Department of Water Resources	**)**	**Project No. 2100-134**

COMMENTS OF THE CALIFORNIA DEPARTMENT OF WATER RESOURCES ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

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On September 29, 2006, the Federal Energy Regulatory Commission (FERC or Commission) issued the "Notice of Availability of the Draft Environmental Impact Statement for the Oroville Facilities and Intention to Hold Public Meetings." On November 15, 2006, FERC Staff (Staff) notified interested parties of a new deadline of December 19, 2006 for filing comments. Pursuant to these notices, the California Department of Water Resources (DWR) submits the comments below on the Draft Environmental Impact Statement (DEIS) for the Oroville Facilities (Project).

The Staff recommendations set forth in the DEIS generally reflect the license terms and conditions proposed in the Settlement Agreement[1] entered into by many of the stakeholders collaboratively participating in the relicensing of the Project. DWR, therefore, respectfully requests that the Commission adopt the recommendations in the DEIS – consistent with the comments below – and issue a new fifty (50) year license to DWR for operation of the Project.

I. INTRODUCTION

Since its commencement in 2001, the relicensing process for the Project has been a broad-based collaborative with representation by all interested stakeholders from a wide array of recreational, Native American, environmental, water supply, and local community interests. Conducted under the Commission's Alternative Licensing Process (ALP), the collaborative relicensing process resulted in a comprehensive Settlement Agreement among DWR and stakeholders (Settling Parties) that DWR filed with the Commission on March 24, 2006. This filing included an extensive Explanatory

[1] California Department of Water Resources, Settlement Agreement for Licensing of the Oroville Facilities, FERC Project No. 2100 (filed Mar. 24, 2006) ("Settlement Agreement").

Statement prepared by DWR. By its terms, the Settlement Agreement is a comprehensive agreement that resolves all issues that have or could have been raised by the Settling Parties in connection with FERC's issuance of a new license for the Project.

In all material aspects, Staff's recommendations in the DEIS generally endorse the proposed license terms and conditions contained in the Settlement Agreement. There are, however, a few recommendations that diverge from the Settling Parties' proposed license terms and conditions in the Settlement Agreement. DWR, therefore, is filing these comments to request that the Commission's license order fully adopts the Settlement Agreement reached during the ALP as intended by the Settling Parties. The terms and conditions contained in the Settlement Agreement were carefully negotiated with stakeholders, and the Settlement Agreement was specifically structured, with assistance from the assigned Staff settlement advisor, to comply with FERC precedent governing the appropriate scope and composition of license articles. DWR also notes that the Settlement Agreement complies with the Policy Statement on Hydropower Licensing Settlements issued by the Commission on September 21, 2006 in Docket No. PL06-05-000. DWR, therefore, respectfully requests that the Commission's final EIS and licensing order for the Project more fully reflect the Settlement Agreement as guided by the comments below.

II. COMMENTS ON THE DEIS

A. THE DEIS PROVIDES A COMPREHENSIVE ANALYSIS OF THE SETTLEMENT AGREEMENT

As an initial matter, DWR would like to commend Staff on the extraordinary effort reflected in the DEIS. The DEIS provides the Commission with a comprehensive review of the impacts and benefits associated with the Project based on the extensive

studies collaboratively scoped, designed, and conducted during the ALP.[2] As a result, the DEIS provides much of the necessary evidentiary support upon which the Commission can issue a new fifty (50) year license consistent with the Settling Parties' proposed license terms and conditions.

There are a few instances, however, where Staff's recommended modifications to the licensing proposals are likely unnecessary after consideration of the additional clarification and elaboration provided herein of the underlying record, and intent of the Settling Parties. There are also a few instances where the Final EIS to be developed from the DEIS will benefit from additional factual clarification and elaboration also provided through these comments as shown in Appendix A, "Technical Comments and Clarifications."

Finally, negotiations of the Habitat Expansion Agreement (HEA) between DWR, Pacific Gas & Electric Company (PG&E), National Marine Fisheries Service (NMFS), Department of the Interior (DOI), California Department of Fish and Game (DFG) and other interested parties have been completed since the DEIS was issued. With the signing of that document imminent, DWR believes discussion and consideration of the HEA document is warranted in this submittal of comments.

B. DEPARTURES FROM PROPOSED LICENSE ARTICLES

The issues raised below are in the order they appear in the proposed license articles. The order in which the issues are discussed is not meant to reflect their order of importance.

[2] An important feature of the ALP was the participation of Staff during the pre-filing phase of the process. DWR and the stakeholders benefited from the technical advice offered by Staff during the scoping and formulation of studies.

1. GRAVEL SUPPLEMENTATION AND IMPROVEMENT PROGRAM

During the ALP, DWR conducted extensive studies, collaboratively designed by stakeholders, of the spawning habitat and the availability of suitable spawning habitat in waters potentially impacted by operation of the Project. Using the results of these studies, the Settling Parties agreed that DWR would (1) upon execution of the Settlement Agreement and subject to any required permitting processes, immediately initiate the planning, development and implementation of a program to supplement up to 15 locations in the Low Flow Channel or High Flow Channel of the Feather River, with *at least* 8,300 cubic yards of spawning gravels suitable for spring-run Chinook salmon or steelhead; and (2) develop a spawning Gravel Supplementation and Improvement Program per approval of a new license.

The Gravel Supplementation and Improvement Program includes a provision whereby DWR will monitor and replenish or rehabilitate gravel at individual sites every five years, as needed, for the term of the proposed new license. Then, at five-year intervals after the initial supplementation period, DWR will monitor and maintain a minimum of 10 sites (i.e., riffle complexes), in the Low Flow Channel so that approximately 80 percent of spawning gravels randomly sampled at each site shall be in the median size range preferred by the target species. In the DEIS, the Staff Alternative proposes a variation of this measure as follows:

> Include in the Gravel Supplementation and Improvement Program, a provision to monitor 10 riffles every 5 years or after a high flow event, assess the adequacy of the volume of gravel used, and replace gravel as necessary. If monitoring of 10 sites, as proposed, reveals objectives are not being met, expand monitoring effort to include all 15 sites and replace gravel as necessary.[3]

[3] DEIS at p. 38.

DWR does not disagree with Staff's inclusion of monitoring after a high flow event. Indeed, DWR believes this is consistent with the intent of the Gravel Supplementation and Improvement Program, which will include a definition of high flow events.

DWR is concerned, however, with Staff's recommendation that DWR monitor all 15 riffles if the initial monitoring of 10 riffles reveals that gravel suitability objectives are not being met. The intent of the riffle monitoring proposed in the Settlement Agreement was that there would be a rotation of surveys among all the riffles receiving gravel supplementation, but that only 10 would be evaluated in any single survey period. In other words, the riffles not surveyed in the first survey would be evaluated in the subsequent survey and so forth. Valid and robust monitoring of gravel quality requires considerable effort. It was the technical judgment of the Settling Parties, including the Federal and State fishery agencies, that sampling all riffles during every survey period would not be the best use of resources. The fact that some riffles may be in poor condition as a natural consequence of a flood event (or after five years) is to be expected and should not trigger additional unnecessary monitoring.

The Gravel Supplementation and Improvement Program also includes a provision that gravel placement or riffle rehabilitation at the treated riffles will, where feasible, cover the extent of naturally observed spawning, or within an area extending between river banks, and extend at least 50 feet upstream and 50 feet downstream of the riffles, and be a depth of at least one foot. Another way of explaining this provision is that the treated area will, where feasible, cover the extent of naturally observed spawning or within an area extending between the river banks (i.e., the active portions of the riffle

itself) and extend, *additionally*, at least 50 feet upstream and 50 feet downstream of the riffle, and be a depth of at least one foot. See PLA A-102(e)(2). Therefore, the Staff comment in the DEIS at page 60 that "the average dimension of the riffle created by this treatment would be 100 feet by 50 feet which would be smaller that the dimensions of riffles recorded in DWR's studies" is inaccurate and should not be included in the Final EIS.

Staff further comments that, "Although the rate of gravel replenishment under the Proposed Action would be greater than what has occurred (placing 8,300 cubic yards over 5 years versus placing more than 10,000 cubic yards over more than 20 years); it is just 0.15 percent of the estimated average sediment deficit for the 5-year period." As a point of clarification, this program is not intended to replace the estimated sediment deficit as to do so would result in an immense environmental shock to the river ecology. Instead the program is designed to improve the known habitat which is already highly productive. Modeling results from Fluvial 12 (Study Plan- G2 Task 7 report) estimated average annual bed-load transport at 10,000 tons per year (50,000 tons over 5 years). Using a conversion factor of 1.2 tons per cubic yard, this translates to approximately 42,000 cubic yards over 5 years. This makes the 8,300 cubic yards twenty percent of the five-year bed load sediment deficit as compared to the 0.15 percent as described. In addition, the spawning-sized gravel represents only a portion of the total bed load. Moreover, 8,300 cubic yards is the *minimum* amount of gravel to be used. The Settling Parties acknowledge that more gravel may be necessary and anticipate that necessity in the structure of the Gravel Supplementation and Improvement Program. See PLA A-102(e)(3)-(4). Finally, Staff's comparison is based on pre-dam total sediment transport as

estimated by the U.S. Geological Survey. A more appropriate basis for comparison is the post-dam bed load transport through the low flow reach using the correct existing conditions baseline as done in Study Plan G2.

DWR requests that the Final EIS reflect these corrective comments when analyzing the Settlement Agreement and the Gravel Supplementation and Improvement Program.

2. FISH WEIR PROGRAM

The Fish Weir Program proposed in the Settlement Agreement provides for two fish barrier weirs; one that will determine the abundance of early returning adult life history behavior of Chinook salmon and steelhead in the Low Flow Channel (monitoring weir) and the second fish barrier weir that will spatially separate spring-run and fall-run in the Low Flow Channel to create a dedicated spawning preserve to protect the spring-run Chinook salmon. It is critical that the monitoring weir be installed first to allow sufficient time to gather more information on the migration timing and abundance of early returning adult life history behavior of Chinook salmon, fall-run and steelhead adults into the Low Flow Channel. This will allow DWR, in consultation with the U.S. Fish and Wildlife Service (USFWS), NMFS, DFG and the Ecological Committee (EC), sufficient time to properly evaluate the appropriate placement of a Chinook segregation weir, which is Phase 2 of the Fish Weir Program. The Settlement Agreement proposes installation of the monitoring weir within three years of license issuance, and installation of the segregation weir within twelve years of license issuance.

Staff discusses the Fish Weir Program in Proposed License Article A105 at pages 177 and 353 and comments negatively on the proposed timeline. Staff states that the

proposed actions "may not provide adequate and timely protections for anadromous salmonids and other fisheries managed by the hatchery." DWR notes, however, that this assertion is neither specific nor supported. The weir implementation timeline defined in the Settlement Agreement reflects the best judgment of the scientific collaborative. An accelerated implementation schedule may seem appropriate at first glance, but it could be catastrophic and costly to design and place a segregation weir without a sufficient period of record from the Phase 1 monitoring weir. Following implementation of the monitoring weir, it is expected to take two to three years to fine-tune methods that will allow accurate characterization of spring-run Chinook salmon population size and run timing. Staff's recommendation that the segregation weir be installed within 6 years of license issuance, which is 3 years after installation of the monitoring weir, could seriously undermine the effectiveness of the entire program. Three years is an inadequate period of time to get the monitoring weir fully operational and provide a sufficient dataset to support permanent placement of the segregation weir and egg taking station. DWR requests that FERC adhere to the schedule carefully determined and negotiated by the scientific collaborative as set forth in the Settlement Agreement.

3. RIPARIAN AND FLOODPLAIN IMPROVEMENT PROGRAM

As part of the Settlement Agreement, the Settling Parties agreed to a proposed license condition to investigate and implement projects to improve riparian and other floodplain habitats for associated terrestrial and aquatic species, and also to connect portions of the Feather River to its floodplain within the Oroville Wildlife Area. The Riparian and Floodplain Improvement Program, which is intended as an environmental enhancements program, was negotiated among the Settling Parties to be implemented in a

phased manner. The phasing acknowledges that this program is a component of the overall Lower Feather River Habitat Improvement Program which provides an overall strategy for managing the various environmental measures to be developed for implementation. The proposed timeline also allows the Settling Parties to take advantage of the existing gravel extraction operations to efficiently and cost-effectively accomplish the purposes of this program. The Explanatory Statement on page 23 states that DWR and DFG will work with gravel operators to seek to reduce costs of gravel removal and the earthwork component of this program, and that the abilities and limitations of the gravel extraction will guide the scope, timeframe and magnitude of the Riparian and Floodplain Improvement Program.[4] This is a critical factor in the implementation timing, and should also be included in Staff's description of the program at page 58 of the DEIS.

However, in the DEIS, Staff recommends:

> Include in the Riparian and Floodplain Improvement Program, a provision to implement 50 percent of the selected measures within 10 years and the remaining measures within 12 years of the issuance of any license for the project.

Staff's proposed disruption of the implementation timelines reduces DWR's ability to use ongoing commercial gravel harvest as a cost-effective tool to accomplish this enhancement measure, and further reflects a misunderstanding of the Riparian and Floodplain Improvement Program. The riparian program is not intended to be a series of small, discrete habitat improvement measures. Rather the program is designed as a phased, large, long-term project that will utilize commercial gravel mining to

[4] The references in Proposed License Article A106 to "gravel extraction" in (a), "gravel value and potential extraction processes" in (b)(1) and (3), and the cost cap of $5 million specifically "excluding any net profits realized from sale of gravel" in (e) are evidence of the Settling Parties' intent to implement this enhancement program through commercial gravel extractions.

strategically reshape portions of the Oroville Wildlife Area (OWA) to achieve the floodplain connectivity objectives. The schedule presented in the Settlement Agreement to phase the Riparian and Floodplain Improvement Program was developed in consideration of the entire Lower River Habitat Improvement Program. To require an earlier schedule would fail to take into account the experience gained during the early years of the implementation program and also the considerable contributions that are likely to be achieved under other components of the Lower Feather River Habitat Improvement Program.

It should also be noted that Staff's analysis underlying its recommendation causes DWR concern. On page 59 of the DEIS, Staff analysis states that floodplain habitat "would remain at existing levels, or continue to decline, for up to 15 years...." DWR is not aware of any data that suggests the floodplain habitat is degrading. In fact, since creation of the OWA, the habitat has improved as dredger tailings left from gold-mining operations during the pre-project era dominated the landscape within the OWA. For these reasons, DWR requests that Staff adhere to the timelines in the Settlement Agreement.

4. FLOW AND TEMPERATURE IMPROVEMENTS

There is substantial high quality anadromous fish habitat in the Feather River below Oroville Dam (Study Plan F-10: Tasks 1C, 1D, 1E, 2A, 2B, 2C, 2D, 3A, 3B, 3C, 4A, and 4B). Nevertheless, studies conducted during the ALP indicated that increasing minimum instream flows and lowering water temperatures in the Low Flow and High Flow Channels would further enhance habitat conditions for anadromous fish. Upon license issuance, under Proposed License Article A108 in the Settlement Agreement,

DWR will increase minimum instream flows below the Thermalito Diversion Dam, and will conduct detailed feasibility studies to determine the extent to which additional facility modification(s) or operational changes might be made in the future to further enhance fish habitat in those reaches of the river.

a. Clarification of Flow/Temperature Proposal

While Staff only recommends altering Proposed License Article A108 to include obtaining Commission approval for flow changes, Staff's description and underlying analysis of the Flow/Temperature proposal in the DEIS are problematic and appear to reflect a misunderstanding of the Settling Parties' intention. For example, Staff's analysis is correct (at page 92) that higher flows in the High Flow Channel (i.e., that portion of the Feather River between the Thermalito Afterbay Outlet and the lower Project boundary) are not proposed under the Settlement Agreement; and that the Settlement Agreement contains a provision to study and potentially implement facility changes that could improve water quality in both the Low Flow and High Flow Channels. However, the statement ". . . or higher compliance flows after a 5-year testing period, if water quality objectives are not achieved" is incorrect. The Settlement Agreement does not have provisions that would increase the water quantity in the High Flow Channel. Rather, the water quality objectives (i.e., the water temperature objectives) for the High Flow Channel will be analyzed in the reconnaissance and feasibility study phases of the measure may be modified for the testing phase, and ultimately be modified to something that can be achieved with facilities modification(s) and under the *current* High Flow Channel flow levels.

Also, at this point, DWR is not proposing to make structural modifications as stated in the DEIS at page 96. The proposal, rather, is to study the feasibility of making structural modifications to the Project. The alternatives *to be considered* include, at a minimum: (1) Palermo Canal improvements, (2) Hyatt intake extension, (3) replacement of the river valves with valves specifically designed to incrementally control water releases, (4) construction of a diversion canal around or through the Thermalito Afterbay, and (5) construction of an alternative Thermalito Afterbay outlet and channel in the OWA to the Feather River. DWR has committed to implementing one or more facility modifications or other actions that the feasibility study suggests are most effective in terms of temperature control and cost (i.e., ones that meet the Table 1 temperature targets and improve temperature conditions for fish in both the Low Flow and High Flow Channels (below Thermalito Afterbay Outlet)). DWR has not committed to implement all of these alternatives.

In the DEIS, Staff incorrectly states at pages 96-97 that by the time the facility modifications are completed or 10 years after license issuance, whichever occurs first, DWR would achieve the proposed temperature objectives; and that after the facility modifications are completed, they would become a license requirement. Although it is anticipated that the measures identified in the feasibility study phase would be implemented within 10 years, the Low Flow Channel temperature objectives do not automatically become requirements after 10 years. In fact, the Low Flow Channel objectives (Table 1 temperatures) become mandatory requirements only after completion of construction of any future facility modification(s) (Proposed License Article A108(d)). The High Flow Channel temperatures (some version of Table 2) only become

requirements to the extent the facilities modification(s) can achieve those temperatures. As explained in the Explanatory Statement and in Proposed License Article A108.5, the High Flow Channel temperature targets may be altered if the facility modifications do not achieve the Table 2A temperatures during the testing period. Only the Feather River Fish Hatchery (FRFH) temperatures (Table 107A or others at least as protective) become requirements no later than the end of year 10 following license issuance.

b. Analysis of Impacts on Rice Farmers

Staff's references on page 97, paragraph 1, of a specific temperature during the rice planting season and a different temperature during the rest of the season are inaccurate. Impacts of cold water on rice depend on the total hours of exposure of rice to cold water than on the temperature itself. Also, the sensitive time period for rice growth is from planting at about May 1 to panicle initiation that occurs before July 31 of each year. There are no impacts of coldwater on rice production after July 31. DWR suggests that the reference of specific temperature and period of time in paragraph 1 of page 97 (sentence within parenthesis) be deleted.

Staff notes at page 98 of the DEIS that,

> It is difficult to project the effects of the Proposed Action in terms of temperature of the water delivered to irrigators and rice farmers due to the absence of operational temperature modeling, the dynamic nature of pump-back operations and the impending facility modifications.

Quantitative assessment using hydrologic models of the potential effects of project operations could not be conducted due to the dynamic nature of the Thermalito Afterbay and the uncertainty associated with the facilities modifications. However, a qualitative assessment of pump-back operations was provided to FERC in DWR's *Technical Response to Intervention of the Water and Irrigation Districts, Butte County, California*.

The analysis concluded that, because pump-back operations were infrequent during the time period rice plants are sensitive to water temperatures, and the volume of pump-back is small compared to the volume of the afterbay, the potential for pump-back operations to affect water temperatures at the agricultural diversions is small.

The uncertainty associated with the facilities modifications increases the difficulty of assessing project effects on water temperatures at the agricultural diversions. A qualitative assessment has shown that selection of some modifications would decrease water temperatures at the agricultural diversions and selection of other modifications would increase the temperatures during the rice irrigation season (May 1 to July 31 of each year). Since the selection of a specific modification is a few years away, DWR will not know the nature of the impact at the agricultural diversions. DWR does know, however, that there is no linear relationship between the temperature changes of incoming water to the temperature change at the agricultural diversions. This is the result of the dynamic nature of the Thermalito Afterbay and of the various factors affecting temperatures at agricultural diversions. For example, a 2°F temperature change of inflow to meet Table 1 water temperature targets would probably be a less than 2°F change at the agricultural diversions. The extent of the change is unknown but it is expected to be minimal.

The DEIS (at page 98) says, "It is likely that any effects would be most pronounced during drought years when DWR's ability to make releases above the minimum flows would be compromised." This is incorrect with regard to impacts on rice growers. The temperature of water released from Oroville Reservoir during droughts would be increased when measured against normal and wetter conditions. As a result, it

is likely that, during drought conditions, the temperature of water entering the Thermalito Afterbay would be warmer, which would decrease the magnitude of impacts on rice farming with respect to water temperature.

Although base flows in the Low Flow Channel would increase by approximately 17 percent during the rice growing period, this would not correspond to an equivalent decrease in Thermalito Afterbay inflow. Since the flow in the Low Flow Channel is much less than the flow in the Power Canal, the 17 percent change in the Low Flow Channel (100/600=17%) results in less than 1 percent change in the Thermalito Afterbay inflow (100/16000=0.6%). DWR expects that the small changes of inflow would minimally affect the storage time of water in the afterbay.

c. Analysis of Impacts on Fish

At page 177, Staff makes the statement that,

> Oroville Dam, other project facilities, and associated operations have altered instream flow and water temperature, adversely affecting anadromous salmonids in the Feather River. Elevated water temperatures in the low and high flow channels have had adverse effects on anadromous salmonids and other coldwater fish.

This statement is incorrect. DFG data shows that there are more fish in the river now than before the project was built. If anything, the facilities have had a beneficial impact to the fisheries. (Draft report SP-F9, The Effects of the Feather River Hatchery on Naturally Spawning Salmonids, November 2004).

Staff also states on page 177 that "The proposed minimum flow increases in the High Flow Channel would be based on the preceding April to July unimpaired runoff." This statement is also incorrect. The proposed minimum flows in the High Flow Channel are identical to those in the 1983 agreement between DWR and DFG, as incorporated

into the existing license on September 18, 1984. No changes to the minimum flows in the High Flow Channel are proposed. Additionally, no net flow changes in the High Flow Channel are proposed in the Settlement Agreement.

On page 179, Staff makes an inaccurate reference to DWR's report, SP-F10 Task 3A. Staff claims that,

> The report concludes that because there is little or no steelhead rearing downstream of the outlet, it is unlikely that high temperatures substantially adversely affect steelhead rearing. We disagree with this conclusion and believe that excessively high water temperatures downstream of the outlet have precluded steelhead rearing and decreased the amount of steelhead rearing habitat in the lower river.

The report makes no such claim. Rather, the report makes it clear that the absence of significant steelhead rearing downstream of Thermalito Afterbay Outlet is a direct result of the unsuitable temperatures often found there.

Staff appears to comment negatively on the "protracted timeline" for implementing the proposed measures in the Flow/Temperature to Support Anadromous Fish Program and indicates there may be an unmitigated impact on ESA listed salmonids at page 180. First, upon license issuance, immediate positive benefits will accrue (increased minimum flows (Proposed License Article A108.1(a)), and additional operational measures to strive to achieve the Table 1 temperatures (Proposed License Article A108.1(b))). Second, there are complex hydraulic interactions between DWR's facilities (multiple discharges to the river), those of South Feather Water and Power Agency (Project No. 2088) and the Project's obligations to make water deliveries to the agricultural interests in the Feather River Services Area, Feather River and Delta water quality requirements and to the State Water Contractors. This complexity creates the need to thoroughly plan, design, construct and operate and maintain any facility

constructed to improve temperature conditions for fish, resulting in several years of study. Third, the facilities modification timeline defined in the Settlement Agreement reflects the best judgment of the scientific and engineering collaborative including NMFS. Moreover, premature implementation of facilities modifications could result in less than optimum performance and significant waste of time and resources. Furthermore, there are no unmitigated impacts to salmonids measured against the baseline conditions or the no project condition. DWR requests that the final EIS reflect these corrections and clarifications.

5. RECREATION MANAGEMENT PLAN - TRAILS

In the DEIS, Staff recommends the Settlement Agreement Recreation Management Plan (SA-RMP) be revised to include provisions to: (1) establish standards for maintaining developed recreation facilities, including trails; (2) conduct a trail condition inventory using the established standards developed for project trails prior to recommending changes, if necessary, to any trail use designation; (3) monitor and report on trail condition throughout the license term; (4) expand the recreation monitoring program to include non-trail users to detect latent demand and unmet user needs related to trails; and (5) finalize the draft Comprehensive Non-Motorized Trails Program and include a detailed implementation schedule, after completion of a trail condition inventory, visitor use surveys, collection of trail use data and proposed feasibility investigations.

Maintenance standards, including trail maintenance standards, exist and will be a component of the Final RMP by reference. DWR and the California Department of Parks and Recreation (DPR) rely upon DPR's comprehensive Trails Handbook (1991) when

establishing and maintaining Project trails. This is included in the SA-RMP (Section 8.0, References), but is erroneously cited as "undated." Please be aware that DPR's Trails Handbook (1991) is a loose-leaf, statewide resource; it is updated regularly, thus it remains a contemporary and appropriate reference and compilation of trail guidelines and standards.

The recreation resource relicensing studies and subsequent Settlement Agreement process thoroughly investigated the inventory of trails, their use, and recommended redesignation of certain trails in the Project area in order to increase and enhance recreational use by a larger number of recreational users. Despite concerns from a minority of relicensing stakeholders, most Recreation Work Group participants (and Settlement Agreement signatories) approved the Draft Comprehensive Non-Motorized Trails Program as described in the SA-RMP (Appendix D).

DWR disagrees with Staff's recommended delay in implementation of the long-studied, carefully negotiated Comprehensive Non-Motorized Trails Program. This recommendation appears based on inaccurate premises, discussed below. On behalf of the Settling Parties, DWR respectfully requests that the Commission accept the SA-RMP's Comprehensive Non-Motorized Trails Program as proposed therein. FERC should also acknowledge the recognized expertise of the DPR in trail design, management, and safety issues at the Project, and the fact that DPR successfully manages hundreds of miles of single- and multi-use trails statewide.

First, FERC Staff apparently relies on its 2004 Environmental Assessment (EA) as the basis for part of its conclusions and recommendation (DEIS page 365). In FERC's order addressing a proposed amendment to the Recreation Plan it stated that,

> This proposed amendment comes at a time when the project is undergoing the process of relicensing and considerations are being made by existing work groups such as the Oroville Recreation Advisory Committee and the Recreation and Socioeconomics Work Group. The relicensing process will address the balance of recreational uses at the project in a comprehensive manner. Making changes such the proposed trail use conversion is premature and untimely.[5]

DWR believes that the ALP has successfully and safely addressed the trails issue to the satisfaction of the greatest possible number of parties, and makes most efficient and appropriate use of the Project's recreational resources. This is recognized by the number and diversity of Settlement Agreement signatories which includes the largest equestrian organization in California, the California State Horsemen's Association, the equestrian organization with the greatest number of local users, national and local bicycling organizations, and the Oroville Recreation Advisory Committee (ORAC). Moreover, this consensus was not focused on the existing 17.5 miles of equestrian hiker-only trails in the Project area, but all 75 miles of trail. The SA-RMP includes a proposed multi-use designation (adding equestrian use) for the 40-plus-mile Brad Freeman Trail which had been open to all users for two years, including the period during the user surveys. Under the FERC staff recommendation, the Brad Freeman Trail will remain bicycle-only for some time, thereby jeopardizing the settlement coalition. Again, the vast majority of Project trail users supported the Comprehensive Non-Motorized Trails Program in the SA-RMP (Appendix D) because this provided access to the greatest number of users for the greatest trail mileage while still preserving certain of the hiker/equestrian-only trails with associated amenities that are best suited to this user group.

DWR disagrees that the data "shortcomings" are accurately and meaningfully described or interpreted in Section 3.3.6.1. Many assumptions relating to trail use

[5] *California Department of Water Resources*, 108 FERC ¶ 62,164 at P 20 (2004).

uncertainties in trail use measurements resulted in conclusions that may be biased to indicate higher projected uses. Use of Project trails is unarguably low, low enough that measuring the precise proportion of different user groups is not meaningful, and the trails present significant opportunity for additional safe use and enjoyment. Safe, expanded multiple-use opportunities (to perhaps a degree somewhat greater even than that proposed in the SA-RMP) were the case during the study period. DWR does not believe that perceived claims of displaced equestrian use because of the 2002-2004 Lake Oroville State Recreational Area (LOSRA) multiple-use designation are genuine. Again, DWR would like to call the Commission's attention to both CSHA and CSHA Region II as significant Settlement Agreement signatories and proponents of the Comprehensive Non-Motorized Trails Program in the SA-RMP (Appendix D).

The Comprehensive Non-Motorized Trails Program in the SA-RMP (Appendix D) does not propose to convert "all" Project trail designations to multiple-use trails. (DEIS, page 365). It is also incorrect to deduce that "appeal to bicyclists" is the rationale that DWR (and Settling Parties) used in crafting proposed trail designations. (DEIS, page 365). Stakeholder advocates and the Settling Parties included equestrians who seek more loop-travel opportunities and a greater selection of Project trails to access, as well as thoughtful non-users who advocate the best use of the Project's recreational resources.

With respect to the value of additional surveys prior to trails program implementation, we respectfully urge Staff and the Commission to reconsider and withdraw this recommendation. DWR is reluctant to expand recreation "monitoring" in this manner. We believe the monitoring plan and survey methodology, and multiple public input opportunities, described in the SA-RMP is adaptable, very robust, and far-

reaching. DWR believes the resources provided by the Recreation Advisory Committee (RAC) and License Coordination Unit (LCU), such as Public Workshops, contact opportunities provided by the Web-based Bulletin Board, and other interpretive resources will also capture this information. Furthermore, "latent demand" existing as a result of "trail non-users" is speculative, and DWR can conceive of no results of such an exercise that would bear upon our reasoned and negotiated effort to expand trail access among existing user groups. Outreach to other, non-local user groups is more appropriately a "marketing" activity and not within the scope of the SA-RMP.

Via the ALP, a majority of participating stakeholders have already "struck a balance" as envisioned in the Comprehensive Non-Motorized Trails Program (SA-RMP Appendix D). Unlike the Internet circulated opposition form letter to the proposed trails plan, the roughly 500 supporting signatures comprised the overwhelming majority of local trail users. Moreover, this is supported by several CSHA Region 2 meetings where 75 percent, or greater, of local equestrians voted to support the trails plan. This process has furthermore already addressed "the safety concerns and future needs" raised by most entities filing comments in opposition to the proposed trail use designations. Contrary to the DEIS, Staff's proposed modification relating to trails and trails management *does* have significant additional cost: the recommendations will entail additional studies analyses and work. This will result in delays in providing expanded access to Project trails, which will be postponed for a minimum of another three years (reducing recreation benefits to the public and Settling Parties). Staff should reconsider its recommendations on this matter to allow DWR and DPR to fully implement trail use designation changes (as described in the SA-RMP) in the spring immediately following License issuance.

6. CLOSURE AT FOREMAN CREEK PENDING PLAN PREPARATION

Proposed License Article A129 of the Settlement Agreement provides for DWR to prepare a plan, in consultation with the four Federally Recognized Tribes, the Kon Kow Valley Band of Maidu, and the RAC, to protect cultural resources at Foreman Creek while conditionally continuing to provide recreation in the general Foreman Creek area. The plan is to be developed and filed for Commission approval within one year following license issuance followed by annual reviews with the consultees over the first five years, and, as necessary thereafter. In the DEIS, Staff recommends closing Foreman Creek to recreation use during plan development, developing the plan in consultation with affected Native American Tribes, and requiring DWR to develop and file the plan with the Commission within six months of license issuance.

The premise for the expedited plan development and concurrent overall area closure appears to be Staff concern on page 367 of the DEIS over "the importance of protecting irreplaceable cultural resources at Foreman Creek and the effects of existing recreational use on cultural resources in the area…."

DWR shares the concern with the adverse effects of existing recreation use on cultural resources. Accordingly, in November 2002, DWR proposed the following series of measures under the existing license to minimize the impacts of existing recreation use on cultural resources at Foreman Creek whenever the level of Lake Oroville falls below 800 feet and exposes cultural resource sites:

- Prohibition of vehicles traveling on areas other than designated roads and parking areas;
- Enforcement of the Foreman Creek area as "day use" only;
- Nighttime closure of the roadway leading into the Foreman Creek area;

- Positioning of floating toilets and floating camps away from the area;
- Provision of additional signage indicating use restrictions;
- Increased presence of security and enforcement staff.

FERC responded in a December 13, 2002 letter that these were "appropriate measures to protect project property and are consistent with [the license obligation to provide public access for recreation purposes]." These protocols have been initiated on 4 separate occasions since they were approved by FERC. In addition, since 2005, vehicular access restrictions at Foreman Creek have been increased regardless of Lake elevation and the Foreman Creek area is closed at night. DWR will continue to add to these protocols through the duration of the existing license as appropriate and as approved by FERC. Accordingly, existing license concerns are being addressed through immediate action by DWR and should not be a rationale for short circuiting future plan development time under the new license. Indeed, the additional time represents a realistic need to consult with impacted stakeholders and State Historic Preservation Officer (SHPO) in order to produce a durable and broadly supported plan. It is also not clear to DWR how the DEIS analysis can declare the entire Foreman Creek area as containing "irreplaceable" cultural resources when the evaluation phase has yet to be completed. An intensive cultural resources inventory has been conducted of the entire Foreman Creek recreation area and fluctuation zone. Approximately 25 cultural resource sites have been recorded at or above the 800-foot mark. These include 6 prehistoric sites, 5 sites with both historic and prehistoric components, 2 historic sites and an additional 12 historic features such as road, ditch and fence segments. Five of the actual sites are located above the reservoir high water mark (900 feet). While off-road vehicle impacts were noted at

virtually all of these sites prior to enforcement of traffic movement, obvious signs of looting (i.e., shovel holes) were not observed.

The archaeological site of most concern, CA-BUT-84, is located at 725 feet in elevation. The reservoir has dropped to or below this level only a handful of times since construction of the dam; twice within the span of the relicensing effort. In addition to the above-listed protections, DWR has posted a guard at Foreman Creek during daylight hours to discourage looters when CA-BUT-84 has been exposed.

DWR believes that restriction of vehicle access to designated areas and roads relieves the vast majority of recreation disturbances to sites in the fluctuation zone. Accordingly, for all these reasons, DWR requests that Staff reconsider its recommendation and allow continued recreation access at Foreman Creek during plan development.

7. RESEEDING THE FACE OF OROVILLE DAM

Staff includes a recommendation in the DEIS that DWR develop a plan to continue reseeding the Oroville Dam with poppies, and estimates the total annualized cost of this measure would be about $900. DWR has made previous, unsuccessful attempts to seed the face of Oroville Dam. Based on that experience, DWR has concluded that California poppies are not adequately "self-sustaining" in this location to produce the desired effect. Vegetation (including various native and non-native wildflowers) currently covers the face of Oroville Dam in virtually all areas that are not rock. However, much of the dam face is rock, generally lacking sufficient soil for efficient poppy seed germination. The diversity of wildflowers on the Dam was not successfully displaced by the 2003 Interim Project poppies. Despite aerial distribution of

about 800 pounds of California poppy seed, germination and establishment was minimal and unimpressive. Continued natural reproduction of low numbers of poppies has recurred annually thereafter, supplemented by several other species of both weedy and native flowering plants. It should be noted that the Interim Project was proposed and implemented not because the existing view of Oroville Dam is not scenic, but mainly as an enhancement and marketing measure at the request of a County of Butte ALP representative. Moreover, it should be noted that the cost of the Interim Project was approximately $10,000 due to the necessity of helicopters and other strategies for seeding the dam. Staff's estimated cost of $900 is unrealistic for such a project. DWR requests that Staff reconsider and delete this recommendation.

C. CLARIFICATION/ELABORATION OF ENVIRONMENTAL ANALYSES

1. SOCIOECONOMICS

In the DEIS, Staff addresses the socioeconomic effects of the Project operations and the recommendations suggested by Butte County. DWR believes the socioeconomic analysis in the DEIS could benefit from further elaboration on certain issues.

a. Population-Driven, Indirect Effects

Beginning on page 318 of the DEIS and carried through the analysis of socioeconomic effects of Project operations in Section 3.3.10.2, FERC staff includes the estimated fiscal effects on Butte County attributable to the resident population indirectly supported by visitor spending and Project O&M activities. Of the net $732,900 deficit to Butte County estimated by Staff and summarized in DEIS Table 67, $354,300 is attributable to these indirect effects, which are based on estimates contained in DWR report R-19, *Fiscal Impacts.*

As noted in a subsequent report submitted by DWR, *Economic and Fiscal Effects of the Oroville Hydroelectric Facilities Operations: A Local Perspective* (TCW Economics 2006), estimates of population-driven, indirect effects of recreation and O&M activity associated with the Project could not be reliably derived in study SP-R19, primarily because of data and analytical limitations concerning intergovernmental revenues. As stated in study SP-R19's conclusions chapter:

> Most revenues transferred to the County by the State and Federal governments to offset the costs of providing many State-mandated countywide services do not necessarily [*emphasis added*] change in response to population growth, resulting in net costs to the County when the countywide population expands. To reflect this situation, the fiscal impact assessment model holds State and Federal revenue transfers constant for several mandated services, whereas the model allows the costs to the County of these services to change in relationship to the population indirectly generated by visitor spending. These partially funded mandates result in fiscal deficits, especially when viewed in the narrow context of the population supported indirectly by recreation activity associated with the Oroville Facilities. Additionally, the constraints placed on Federal and State revenue transfers by the fiscal impact assessment model likely results in the model understating revenue transfers attributable to the portion of the County population indirectly supported by recreation visitor spending.

It should be noted that the analysis of population-driven, indirect effects of recreation and O&M activity was not part of the original scope of work for the SP-R19 study plan, but was subsequently added in response to a request from Butte County's representative (Jon Ebeling) on the Socioeconomics Technical Review Team.

During the 2002-03 fiscal year, the County of Butte received revenues from 317 State and Federal revenue sources. The State and Federal governments use formula grants to distribute much of these revenues to local governments to help them implement State and Federal programs and policies in such areas as health and welfare, transportation, and education. The amounts individual government agencies receive are determined by complex formulas that consist of many factors.

A recent study of Federal revenue allocation formulas (*Factors Determining California's Share of Federal Formula Grants, Second Edition*, Tim Ransdell, Public Policy Institute of California, 2004), identified 17 categories of factors that are used in revenue allocation formulas. These factor categories include population levels and growth, overall poverty rates, childhood poverty rates, per capita income, fiscal effort and cost (e.g., the fiscal sacrifice or effort made by a locality to support a program's goals), employment and unemployment statistics, urban/rural population mixes, age-range population levels, undocumented and legal immigrant populations, percentage of population receiving specific benefits, crime rates, housing statistics, transportation statistics, educational attainment levels, and historic funding levels.

Another recent study of revenue allocation formulas (*Statistical Issues In Allocating Funds by Formulas*, Committee on National Statistics, 2003), concluded that "the California experience shows that many of the principles and practices associated with allocation of federal funds by formula apply at the state level." This study found that estimates of total population by area play a somewhat larger role in allocating funds for State programs than they do in Federal programs. Many State funds are distributed based on current estimates of population by county and city provided annually by the California Department of Finance. For example, the State allocates Local Public Safety (Proposition 172 sales tax) revenue, which accounted for $10.1 million of the $146.5 million of Butte County's State intergovernmental transfers in its adopted 2002-03 budget, based on a formula that considers jurisdictional population (*Butte County 2002/03 Final Budget, Budget Message*, page 12, County of Butte, 2002).

All of these considerations make accurately modeling changes in intergovernmental revenues attributable to the Project extremely difficult, if not impossible. Ultimately, the study team concluded that attempting to model the behavior of more than 300 State and Federal revenue sources was beyond any reasonable scope of work for the study and, even if done, would not likely provide reliable information for assessing the potential indirect (growth-related) effects of the Project. Most intergovernmental revenues were, therefore, held constant in the analysis of current and projected indirect (growth-related) fiscal effects of the Project, which had the effect of understating population driven revenues and overstating the population-drive, indirect net fiscal effect.

In summary, study SP-R19 concludes that intergovernmental revenues may be underestimated by the fiscal assessment impact model, thereby leading to an overestimation of the deficit resulting from population growth supported by visitor and O&M expenditures. Because of the fiscal model's inability to accurately capture all indirect fiscal effects, the $354,300 deficit related to indirect population growth estimated by the model is deemed to be unreliable by the model's developers. Therefore, conclusions concerning the severity of fiscal impacts on Butte County should be based only on FERC's estimated direct visitor-driven deficit of $378,600 rather than on the estimated total deficit of $732,900 that includes indirect effects.

It is acknowledged that Butte County, like many other counties in California, faces difficult fiscal challenges as a result of, in part, the uncertainty and changes from year-to-year in funding from state and federal sources. The enactment of Proposition 1A in 2004 has helped to increase stabilization of State funding to counties. As indicated in

a recent article in the *Oroville Mercury-Register* (Mary Weston, November 6, 2006), by its own admission, Butte County's fiscal health has recently improved because of State subvention funding shifts and provided by statewide Proposition 1A. According to Butte County Chief Administrative Officer Paul McIntosh, Proposition 1A has helped the county become financially stronger. "I'm glad to tell you we no longer need a fibulator," McIntosh said. "The pulse of the county is good."

b. Payments in Lieu of Taxes

In response to Butte County's request that DWR make payments in lieu of taxes to compensate for property tax revenues lost as a result of DWR's tax-exempt ownership of Project lands, FERC staff concludes in the DEIS "that the Oroville Facilities result in either a small net loss or potentially a net gain in Butte County's annual property tax revenues." This conclusion is based on FERC's assessment of competing estimates of potential property tax losses, with Staff concluding that the potential loss likely falls into the range of $130,400 to $893,200 annually. Estimates prepared by CH2M Hill (2006) and TCW Economics (2006), discussed on page 330 of the DEIS, place the potential loss near the mid-point of this range ($368,700 and $390,000, respectively).

Interestingly, Butte County's own analysis of Project-related effects indicates property tax revenue impacts near the mid-point of this range. By assuming that the Project resulted in the displacement of the Big Bend hydroelectric project (clearly a pre-project baseline condition) and that Project lands would have been developed in a mix of uses similar to the rest of the county, Butte County estimated that development of the Project resulted in the total loss of about $3.2 million in property tax revenues. Based on Butte County's average 13 percent share of total property tax revenues, Butte County's

foregone property tax revenues would be about $424,500, with potential private development of Project lands accounting for an estimated $342,500 of this total.

However, Butte County's claim that removal of Project lands from public tax rolls for development of the Project has resulted in the loss of property tax revenue is substantially weakened by the county's failure to account for an important fiscal consideration. Had Project lands been developed in private uses, thereby generating property tax revenues, the demand for county services, such as law enforcement and emergency services, would have also substantially increased. The real question regarding the fiscal impact on Butte County is not the amount of revenue that could have been generated by development of Project lands, which is in dispute, but whether development and use of Project lands would have resulted in a *net* increase in revenues for Butte County.

Based on the location and steep, rugged topography of Project lands, it is probable that private development of Project lands would have been weighted heavily toward low- and mid-density residential uses. This type of development would have created a population requiring an array of services from Butte County, generating an accompanying increase in public service costs to the county. Although the residential population would have generated some level of offsetting tax revenues, it is a generally accepted notion in California that, in a fiscal sense, residential development does not pay for itself. For development of a large area, such as the Project inundation area, to be fiscally sound, a balanced mix of commercial and industrial development is usually needed to provide revenues to fully offset the costs of serving a resident population. This is particularly true for California counties, which must deal with continuing structural

budget problems related to State and Federal mandates for serving the resident population.

Based on the probability that a large portion of Project lands would have been developed in residential uses if the Project had not been constructed, the ongoing public services costs generated by this development would have likely outweighed public revenues, resulting in a net fiscal loss to Butte County. In its filings before FERC, Butte County has not attempted to quantify public services costs potentially generated by development of Project lands, so the potential net fiscal effect is not known. Hence, Butte County's unsubstantiated assertion that private development of Project lands would have created less of a fiscal burden on the County than does Project uses is not supported by evidence and is not reasonable. The Project currently brings an average daily population of 1,910 nonresident visitors into Butte County that requires public services that are met in part by state agencies. Private development of Project lands would have undoubtedly generated a substantially larger population of residents requiring County services.

Given the likelihood that private development of Project lands would have resulted in negative fiscal impacts to Butte County, FERC's analysis should conclude that development of the Project has resulted in negligible net impacts on Butte County's annual property tax revenues.

c. Staff's Conclusions

After considering all the fiscal costs and benefits that have been quantified in the DEIS, Staff concludes that "the project may impose a negative net fiscal impact on Butte County." Staff goes on to say that though "this negative net fiscal impact suggests that

there may be a small burden on the County, some of the economic benefits that the project provides, that were not quantified in our fiscal analysis, may lessen these negative impacts."

It should be noted that other benefits provided by the project may further reduce or fully offset negative fiscal impacts. For example, under Measure B111, *Oroville Wildlife Area Funding*, in Appendix B of the Settlement Agreement, DWR proposes to provide funding to DFG to manage the OWA. The funding is estimated at $850,000 annually to support 9.5 full-time positions, including two full-time law enforcement-game warden officers providing additional public safety in the OWA. Additionally, under the Settlement Agreement, DWR will establish and maintain a Project Supplemental Benefits Fund to benefit local communities in the vicinity of the project area. Over the 50-year license period, the Fund will provide up to $61,270,000 of un-escalated funds to be used for local projects as determined by the fund's locally-controlled steering committee. The steering committee will be comprised of both voting and advisory members, including three members of the Oroville City Council. With the approval of the steering committee, funds could be provided to local governments to assist with the provision of public services to visitors to the project area, if needed.

Currently, the project directly and indirectly assists with law enforcement by providing 11 to 13 full-time peace officer law-enforcement positions funded by DPR and DWR to operate the LOSRA, contractual payments to the Butte County Sheriff's Department for patrols on Thermalito Afterbay, security patrols through DWR's security contract, California Highway Patrol contributions to law enforcement within the Project boundary, and California Department of Forestry and Fire Protection (CDF) funding tied

to state lands contained in the Project boundary area. Collectively, the law enforcement measures alone cost the State approximately $2 million per year while the CDF fire protection funding for the entire Lake Oroville area and about 75 percent of the total Project area equals or exceeds this level of funding.

2. FEATHER RIVER FISH HATCHERY

In the DEIS, Staff acknowledges that the Feather River Fish Hatchery (FRFH) exists to meet anadromous salmonid production goals. While this is true, this description of the FRFH (like most other mentions of FRFH found in the DEIS) fails to acknowledge the mitigation function of FRFH. The Staff analysis also fails to acknowledge how successful the hatchery has been in meeting (and in fact exceeding) its mitigation goals (see SP-F9 Final Report: The Effects of the Feather River Hatchery on Naturally Spawning Salmonids. November 2004. http://orovillerelicensing.water.ca.gov/wg-reports_envir.html).

Staff focuses on certain problems with the FRFH in the DEIS at page 174, but fails to mention any of its very significant benefits. Specifically, Staff claims that FRFH operations have introduced and spread diseases that have impacted stocked or native salmonids and references Section 3.3.3.1 of the DEIS. However, nothing in Section 3.3.3.1 or elsewhere in the DEIS supports this claim. The only significant and documented disease-related impact resulting from FRFH operations was the stocking of high numbers of Chinook salmon in Lake Oroville during the late 1990's. While this had a severe effect on survival of fish rearing in the FRFH, it had no discernable impact on wild salmonids. It should be noted that this only occurred once during the life of the project and the current stocking program is designed to prevent this occurrence in the

future. DWR believes the DEIS does not provide an accurate analysis of the FRFH and should be revised to better reflect the benefits realized from the FRFH. The DEIS fails to fully acknowledge the various FRFH improvements and enhancements identified in the Settlement Agreement (Proposed License Article A107).

Staff credits DFG with recently implementing the spring-run tagging programs at the FRFH. In fact, DWR has been integral in initiating these studies by providing fisheries expertise and all necessary financial support. DWR believes Staff should acknowledge the strong collaborative relationship between DWR and DFG in all aspects of FRFH operations.

DWR also believes Staff's analysis of the FRFH requires additional clarification. For example, at page 99, Staff discusses dissolved oxygen (DO) levels. Low DO water from the river valves would not be a problem for the FRFH since the releases mix with the Thermalito Diversion Pool. Depending on the generation mode, water in the Thermalito Diversion Pool consists of a combination of waters from Lake Oroville from the depth of the intake shutters; the river outlet; the Kelly Ridge powerhouse; and during pump-back operations, the Thermalito Complex. As such, the Thermalito Diversion Pool is usually well mixed, diminishing the risk of passing low DO water from the river outlet to the FRFH or the Low Flow Channel. It should be noted that there have been no DO related problems reported during the life of the project. In addition, the water intake line to the FRFH runs all of the hatchery water through an aeration tower before the water enters the hatchery, further reducing the potential for low DO problems at the FRFH.

3. ENVIRONMENTAL BASELINE AND OTHER INCONSISTENCIES

Throughout the DEIS Staff alternates, apparently arbitrarily, between applying the incorrect pre-project baseline and applying the correct existing conditions baseline in its various analyses. All of the instances where the incorrect pre-project baseline is employed and the resulting analysis should be revised using the correct existing conditions baseline.

For example, on page 171 of the DEIS, Staff determines that "Gravel supplementation would have no beneficial effect on the spatial segregation of the naturally spawning spring-run and fall-run Chinook salmon because the dam blocks upstream migration and concentrates spawning in the low flow channel." This statement inappropriately implies analysis of the proposed action to pre-Project conditions. Moreover, it is misleading because the Gravel Supplementation and Improvement Program addresses other aspects of anadromous salmonid spawning habitat restoration and enhancement. Specifically, gravel supplementation addresses spawning substrate suitability while the spawning segregation weir program addresses genetic introgression. The HEA will result in enhanced habitat suitability in areas other than the lower Feather River.

Another example of applying the incorrect baseline appears at page 190, wherein Staff discusses unavoidable adverse impacts of the dams remaining in place to anadromous fish. This is an inappropriate "without dam" or pre-Project frame of reference. This discussion further fails to acknowledge that the HEA expressly acknowledges that it will fully mitigate for fish blockage, as discussed below.

In Staff's discussion of the Endangered Species Act at pages 376-377, Staff again appears to improperly apply a pre-Project baseline. Comparison of the proposed action to the appropriate baseline condition would indicate a beneficial effect on spring-run Chinook salmon and steelhead in the Feather River and in the Central Valley. Specifically, the proposed gravel enhancements and spawning segregation weir programs would improve spawning habitat for all anadromous salmonids and facilitate genetic segregation of spring- and fall-run Chinook salmon in the Feather River, respectively. Additionally, the LWD supplementation and channel enhancement programs would improve rearing habitat for anadromous salmonids in the Feather River, water temperature decreases and flow increases would improve habitat conditions for all life stages of these species, and the HEA would improve habitat conditions for theses species in other areas of the Central Valley. If existing conditions were the baseline, then any enhancements DWR provides could not, by definition, adversely affect the species as indicated by Staff. The PDEA fully identifies, addresses, and provides mitigation for ongoing effects of the proposed action. Virtually all project-related effects are being mitigated when compared to the appropriate environmental basis of comparison.

Staff concludes at page 377 that the Project is "likely to adversely affect" various species, yet provides no basis to support such a conclusion. DWR does not agree with this finding and refers FERC to the draft Biological Assessments prepared in cooperation with USFWS and NMFS. The Biological Assessments are consistent with the Settlement Agreement and the Explanatory Statement in concluding that the Project is not likely to adversely affect these species.

There are other inaccuracies noted throughout the DEIS. For example, Staff states at page 61, 2nd full paragraph,

> Further recent telemetry tracking of tagged LWD performed on the Sacramento River (Chico Landing Subreach) over the course of approximately 1 year (Henderson, 2003) indicates that while nearly all tagged pieces of LWD stayed within the river channel (rather than getting deposited on the floodplain), downed trees traveled an average of 6 miles downstream. This suggests that unless individual trees are cabled in place or installed in larger groups (such as part of an engineered log jam designed to stay in place at higher flows), single pieces of LWD could move out of the low flow channel (and potentially the high flow channel), relatively quickly. Consequently, maintaining and monitoring channel improvements and structural habitat elements at a minimum of every 5 years may not be adequate to maintain the habitat."

This statement may not be accurate. Relicensing studies have indicated that channel forming flows on the Feather River occur at five- to seven-year intervals on average. These channel forming flows occur more frequently on the Sacramento River which indicates that it would be unlikely that the LWD on the Feather River would migrate at the rate recorded on the Sacramento River.

Similarly, Staff states at page 131 that

> Given the current conditions in the low flow and high flow channels (i.e., low levels of LWD and no natural recruitment) and size of the river, the proposed minimum size of the supplemental LWD (i.e., 10 feet long) would likely be insufficient for substantial fisheries habitat enhancement or long-term retention. The proposed LWD supplementation is at the rate of a minimum of two pieces of LWD, boulders, or other material per riffle, resulting in a total of 50 to 500 pieces, or from less than 4 pieces to more than 38 pieces per mile. At the low end of this range (4 pieces per mile), fisheries habitat would not substantially improve over current conditions. Additionally, trees that are simply placed on riffles are not likely to stay in place during higher flows.

This analysis reflects little understanding of the geomorphic or ecological function of LWD in alluvial rivers, or the specific LWD considerations required for the lower Feather River. In natural alluvial rivers, LWD is deposited primarily in riffle and glide habitats as these geomorphic units are depositional during high flow events while

pools are scoured. LWD with intact rootwads often get stranded along margins or on shallow, midchannel riffle bars. Once in place this LWD encourages local scour and sediment deposition, providing fish habitat and, sometimes, forming midchannel islands or other desirable river features. A minimum length of 10 feet is reasonable and not inconsistent with natural LWD. Furthermore, the length of the woody debris is of much less significance than its diameter, weight and structural complexity (rootwad, branches, etc). Also, the Settlement Agreement specifies that at least 50 percent of all placed LWD will have intact root wads. This ensures that though some pieces may be "short", they will be sufficiently large to be anchored, affect local geomorphic process, and provide suitable fish habitat.

The analysis also ignores that LWD placement will target only habitats suitable for rearing juvenile salmonids (i.e. riffles and glides). Pools are not targeted because they provide no habitat for juvenile salmonids (SP-F10 Task 3A Steelhead Report). LWD placed in pools would only serve to create predator havens for pikeminnow and black basses.

The number of LWD pieces per mile is a misleading metric since there are typically only 1-4 riffles per mile in the lower Feather River. Again, this is common among low gradient alluvial rivers. A minimum of two pieces of LWD per riffle reflects an anticipated compromise between fish habitat and recreational needs. Depending on placement, there are some locations where more than two pieces of LWD would prevent safe passage of boats. Placement of LWD will require careful consideration for safety, fish habitat and be thoroughly integrated with other elements of the Lower Feather River Habitat Improvement Program (LFRHIP). Details such as exact LWD placement and

anchoring methods were not included in the Settlement Agreement because it would be premature to do so prior to development of comprehensive LFRHIP implementation plans. DWR believes Staff should revise this portion of the DEIS consistent with this information.

At page 352, Staff opines that DWR should not use structural habitat objects (such as boulders) that are not consistent with historic conditions in the lower Feather River. Conforming to "historic" conditions may be superficially appealing; however it is not a very useful standard for a regulated river. Historic conditions, for example, would mean that temperatures would be warmer and thereby unsuitable for spring-run Chinook salmon and steelhead. Staff should recognize that while the proposed LFRHIP takes advantage of natural fluvial process where possible, it is not an attempt to recreate historic conditions because that is neither possible or desirable for many important species currently dependent on the lower Feather River.

D. HABITAT EXPANSION AGREEMENT

In the DEIS, Staff mentions the HEA, but concludes that such agreement "would have to be finalized, signed, and submitted to the Commission before the commission acts on this article," and that the agreement is thus outside the scope of this analysis. DWR is pleased to announce that negotiations on the final HEA are complete; and it will be executed and filed with FERC upon completion of a coordination agreement between DWR and Pacific Gas and Electric Company, the licensee of the three upstream hydroelectric projects. Despite being subject to a separate agreement, DWR believes the HEA should be analyzed consistent with the other provisions of the Settlement Agreement.

The stated goal of the HEA is to expand the amount of habitat with physical characteristics necessary to support spawning, rearing, and adult holding of spring-run Chinook salmon and steelhead in the Sacramento River Basin as a contribution to the conservation and recovery of these species. Specifically, the goal of the HEA is to expand habitat to accommodate an estimated net increase of 2,000 to 3,000 spring-run Chinook salmon for spawning in the Sacramento River Basin. The expansion of habitat will be accomplished through enhancements to existing accessible habitat, improving access to habitat, or other action(s), and is intended to fully mitigate for any presently unmitigated impacts due to the blockage of fish passage of all fish species caused by the relevant hydroelectric projects on the Feather River.

The HEA provides mitigation for ongoing and cumulative effects associated with the proposed action. As such, it should be included in the scope of the DEIS irrespective of the location of the actions that would potentially be implemented under the HEA. Additionally, all of the actions described in the HEA provide some benefit to anadromous salmonids. Therefore, implementation of any combination of actions also would provide beneficial effects on anadromous salmonids. Accordingly, DWR believes the HEA should be an integral part of Staff analysis of the proposed action.

DWR notes that throughout the DEIS, Staff implies that there is more suitable habitat upstream of the Project, and that the Project is solely responsible for blocking upstream migration into historic spawning habitat. Specifically, the DEIS states at page 108 that, "the four major tributaries [of Lake Oroville] generally provide suitable habitat for all life stages of Chinook salmon and steelhead." While this statement is supported by the general conclusions of relevant study reports (SP-F15 Task 2; SP-F3.1 Task 1C), it

is a generalization which implies an undeserved level of certainty about the quality of habitat above Lake Oroville for anadromous salmonids. The SP-F15 Task 2; SP-F3.1 Task 1C also describe numerous temperature problems that are likely to occur and the limited habitat available, especially for spawning and egg incubation for spring-run Chinook salmon. The questionable suitability of habitats upstream of Lake Oroville is also reflected in the fact that both NMFS and USFWS chose to reserve their Section 18 authority (while supporting the HEA) rather than prescribe fish passage anywhere upstream of Lake Oroville. DWR believes Staff should revise references to upstream habitats to reflect the very real uncertainty about sustainable suitability of historic habitat for steelhead and spring-run Chinook upstream of Lake Oroville.

On page 117, Staff implies that the Project is solely responsibly for blocking upstream migration into historic spawning habitat in the upper Feather River. In fact, the accessibility and quality of habitat in the Feather River basin was severely compromised prior to construction of the Project. Oroville Dam did not begin construction until 1961. At this time, the extirpation of spring-run Chinook salmon and steelhead was at least well underway as a result of preexisting man made barriers (beginning with the 1850 construction of Las Plumas Dam, and continuing with many others) and intensive mining and agricultural (Sutter-Butte and Great Western Diversion Dams) activity in the basin. Man made barriers (West Branch & North Fork Feather River) and natural barriers (on the Middle and South Fork Feather River) had confined spring-run Chinook and steelhead to essentially the inundation zone of Lake Oroville well before Oroville Dam construction began. This remnant habitat probably did not provide geographic isolation between spring- and fall-run Chinook salmon and thus, these stocks were likely at least

somewhat introgressed before construction Oroville Dam. Furthermore, fish trapping data from DFG suggests that spring-run Chinook and steelhead populations were vastly diminished prior to the completion of Oroville Dam (Painter et al. 1977). Note Figure 14 on page 115 of the DEIS. DWR believes Staff should revise all statements regarding Lake Oroville's role in blocking upstream habitat to provide a more accurate historical context. For example, Staff could state that the Project has contributed to loss of upstream habitat rather than implying that the Project is the sole or even primary source for loss of historic habitat. DWR further believes Staff also should reevaluate the environmental baseline as conditions under the existing license, not pre-Project conditions.

E. HISTORIC PROPERTIES MANAGEMENT PLAN

Staff recommends several revisions to the HPMP. The revised HPMP will include the requested additional information on site management recommendations and resource evaluations, including a schedule for completing these evaluations. These evaluations will focus on resources subject to ongoing effects from reservoir level fluctuations, recreational activities, and other management actions such as habitat improvements in the OWA. As noted in the draft HPMP, proposed future actions would include standard cultural resource inventory and evaluation efforts. The schedule of archaeological work within the fluctuation zone will be contingent upon reservoir levels and reasonable access to sites at lower elevations.

DWR has initiated a program of resource evaluations in compliance with Section 106 in the interest of obtaining adequate information on the nature of the numerous archaeological resources within the Project area. This program was developed in

consultation with local Native American Tribes and individuals, other federal agencies (BLM and USFS), and the SHPO. The evaluation program focuses on resources within high-priority areas where ongoing project activities are known to be impacting archaeological resources (e.g., the fluctuation zone, and the woody debris collection and removal program at McCabe Creek).

DWR has begun the evaluation of a 10 percent sample of the 572 historic-era archaeological sites within the Project boundary. Because of the redundant nature of these resources and the availability of archival data, it is DWR's expectation that upon completion of the evaluation of about 57 individual resources, the remaining historic-era archaeological sites can be evaluated within the context of one or more NRHP Districts. Consultation with the SHPO and involved federal agencies will be incorporated in this subsequent evaluation phase.

Approximately 223 of the 418 known prehistoric archaeological sites in the Project boundary are located within the existing reservoir and are, therefore, exposed to some level of ongoing impacts. To assess these resources against the criteria for eligibility for inclusion in the NRHP, DWR consulted with Native American Tribes and individuals, BLM, USFS, and SHPO and has initiated the evaluation of a modified stratified random sample of these sites (see DWR 2004). The goals of this initial evaluation effort of prehistoric resources, as acknowledged in the draft HPMP, include: (1) recognition of Native American interests and concerns with archaeological excavations in sensitive resource locations; (2) obtaining sufficient information on the six site classes identified during the archaeological inventory to ascertain the nature and condition of the resources that have been subject to reservoir level fluctuations for the

past 45 years; (3) provide adequate information to make informed management decisions relative to the treatment of resources within the fluctuation zone; and (4) provide information to enhance the public understanding of these resources and the need to protect significant resources. It is believed that a 20 percent sample is sufficiently large enough to represent each class of site and the resource population as a whole. Should results of this program reveal unanticipated variability in the nature of the sites, making it difficult to assess the values of untested deposits, further evaluative efforts may be required.

Upon completion of these initial evaluation efforts, DWR fully expects it will continue consultation with the local Native Americans, FERC, BLM, USFS, and the SHPO on the evaluation and treatment of prehistoric archaeological sites in the reservoir and at developed recreation sites. Certain classes of sites (e.g., isolated bedrock milling stations with no associated archaeological deposits) may be recommended as ineligible based on the evaluation sample, while others (e.g., large, complex sites with considerable intact archaeological deposits) may be recommended as eligible resources based on surface inventories and the data gathered during the initial evaluation. Other classes of prehistoric sites may be managed as eligible resources, with agreed-upon treatment measures to be developed in consultation with involved federal agencies, Tribes, and the SHPO.

DWR has also proposed to evaluate 20 percent of the prehistoric sites located elsewhere within the Project boundary. While some of these resources will be located in current recreation areas, this evaluation effort is planned to gather more refined information on the nature and condition of sites outside the areas of ongoing project-

related impacts for management purposes, and to help determine if one or more prehistoric archaeological Districts should be recommended for inclusion in the NRHP.

Many sites above the reservoir pool are not directly impacted by existing conditions, nor are they likely to be affected by proposed development; therefore there is virtually no potential for an adverse effect from the relicensing of the facilities. As such, there is no reason to create impacts to those sites by conducting evaluation excavations, and DWR has proposed to manage these resources as though they are NRHP-eligible, to monitor potential impacts over time, and to conduct resource evaluations and/or recommend site-specific treatment in the event that potential project-related effects are found to occur in the future.

F. TECHNICAL CORRECTIONS

Attachment A includes a list of technical corrections identified by DWR. DWR requests that these revisions be reflected in the final EIS.

III. CONCLUSION

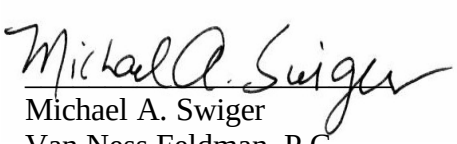
DWR appreciates the opportunity to comment on the DEIS. DWR believes the DEIS provides a comprehensive analysis of Project operations and identifies the extensive settlement commitments DWR will provide during the term of the new license. Together with the underlying relicensing studies, the DEIS provides a complete evidentiary record upon which the Commission can issue a new fifty (50) year license to DWR consistent with DWR's license application and the Settlement Agreement.

While the DEIS generally supports DWR's license proposal in all material aspects, there are Staff recommendations that diverge from the settlement proffered by DWR and the Settling Parties. DWR respectfully requests that the Commission not adopt

these recommendations and issue a license order that is wholly consistent with the Settlement Agreement.

WHEREFORE, for the reasons stated above, DWR respectfully requests that the Commission incorporate the comments above into the final EIS and the licensing order for the Project.

Respectfully submitted,



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Counsel to the California
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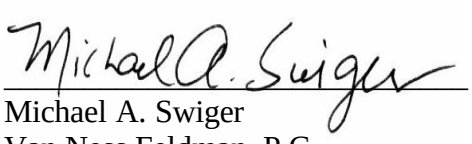
DATE: December 19, 2006

CERTIFICATE OF SERVICE

Pursuant to Rule 2010 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission, I hereby certify that I have this day caused the foregoing document to be served upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Washington, DC, this 19th day of December, 2006.



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